

PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

Sheet 1 of 7

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
12/1		US- 3,972,963	8/3/1978	Schwab et al.	
		US- 4,233,409	11/11/1980	Bulkley	
		US- 4,247,434	1/27/1981	Vanderhoff et al.	
		US- 4,463,129	7/31/1984	Shinada et al.	
		US- 4,543,403	9/24/1985	Isayama et al.	
		US- 4,659,780	4/21/1987	Shimozato et al.	
		US- 4,788,254	11/29/1988	Kawakubo et al.	
		US- 4,829,130	5/9/1989	Licchelli et al.	
		US- 4,837,274	6/6/1989	Kawakubo et al.	
		US- 4,837,401	6/6/1989	Hirose et al.	
		US- 4,870,144	9/28/1989	Noda et al.	
		US- 4,904,730	2/27/1990	Moore et al.	
		US- 4,904,732	2/27/1990	Iwahara et al.	
		US- 4,906,695	3/6/1990	Blizzard et al.	
		US- 5,075,377	12/24/1991	Kawakubo et al.	
		US- 5,120,379	6/9/1992	Noda et al.	
		US- 5,514,753	5/7/1996	Ozawa et al.	
		US- 5,169,914	12/8/1992	Kaszas et al.	
		US- 5,219,945	6/15/1993	Dicker et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
12/1		WO 01/87999A2	11/22/2000	Faust et al.		
		WO 02/100936	12/19/2002	Exxon Chem.		
12/1		WO 02/31002A1	4/18/2002	UAB Res. Found.		
		WO 91/04992	4/18/1991	Exxon Chem.		

Examiner  
SignatureDate  
Considered

4/30/07

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 2

of 7

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
DM		US- 5,237,015	8/17/1993	Urban	
		US- 5,247,021	9/21/1993	Fujisawa et al.	
		US- 5,282,502	11/16/1993	Fujisawa et al.	
		US- 5,290,873	3/1/1994	Noda et al.	
		US- 5,331,035	7/19/1994	Hall	
		US- 5,336,712	8/9/1994	Austgen, Jr. et al.	
		US- 5,421,866	6/6/1995	Stark-Kasley et al.	
		US- 5,447,990	9/5/1995	Noda et al.	
		US- 5,487,054	12/8/1998	McKee et al.	
		US- 5,525,639	6/11/1996	Keneko et al.	
		US- 5,527,870	6/18/1996	Maeda et al.	
		US- 5,580,925	12/3/1996	Iwahara et al.	
		US- 5,614,579	3/25/1997	Roggeman et al.	
		US- 5,627,252	5/6/1997	De La Croi Habimana	
		US- 5,688,856	11/18/1997	Austgen, Jr. et al.	
		US- 5,728,791	3/17/1998	Tamai et al.	
		US- 5,733,975	3/31/1998	Aoyama et al.	
		US- 5,739,287	4/14/1998	Fujisawa et al.	
DM		US- 5,777,037	7/7/1998	Yamanaka et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
DM		WO2004/058874	7/15/2004	Bridgestone Corp.		
		EP 0 265 142 A2	4/27/1988	Rohm and Haas		
		EP 0 590 491 A2	4/6/1994	Bridgestone		
DM		EP 1 099 728 A1	5/16/2001	Chiba et al.		

Examiner  
SignatureDate  
Considered

4/30/07

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Sheet 3 of 7

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
M		US- 5,811,501	9/22/1998	Chiba et al.	
		US- 5,834,563	11/10/1998	Kimura et al.	
		US- 5,849,847	12/15/1998	Quirk	
		US- 5,855,972	1/5/1999	Kaeding	
		US- 5,883,173	3/16/1999	Eispass et al.	
		US- 6,011,116	1/4/2000	Aoyama et al.	
		US- 6,020,446	2/1/2000	Okamoto et al.	
		US- 6,025,416	2/15/2000	Proebster et al.	
		US- 6,025,445	2/15/2000	Chiba et al.	
		US- 6,060,559	5/9/2000	Feng et al.	
		US- 6,087,016	7/11/2000	Feeney et al.	
		US- 6,087,456	7/11/2000	Sakaguchi et al.	
		US- 6,106,953	8/22/2000	Zimmermann et al.	
		US- 6,117,932	9/12/2000	Hasegawa et al.	
		US- 6,121,379	9/19/2000	Yamanaka et al.	
		US- 6,147,151	11/14/2000	Fukumoto et al.	
		US- 6,268,451	7/31/2001	Faust et al.	
		US- 6,277,304	8/21/2001	Wei et al.	
M		US- 6,348,546	2/19/2002	Hiro et al.	

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)			
M		EP 1 134 251 A1	9/19/2001	Okamoto et al.	
M		JP 08-199062	8/8/1996	Mitsubishi Chem.	

Examiner Signature		Date Considered	4/30/07
--------------------	---	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

Sheet 4 of 7

## **U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
MH		US- 6,573,330	6/3/2003	Fujikake et al.	
		US- 6,598,645	7/29/2003	Larson	
		US- 6,649,702	11/18/2003	Rapoport et al.	
		US- 6,750,297	6/15/2004	Yeu et al.	
		US- 6,759,464	7/6/2004	Ajbani et al.	
		US- 6,835,781	12/28/2004	Kondou et al.	
		US- 6,872,785	3/29/2005	Wang et al.	
		US- 6,875,818	4/5/2005	Wang	
		US- 2002/0095008	7/18/2002	Heimrich et al.	
		US- 2002/0144401	10/10/2002	Nogueroles Vines et al.	
		US- 2003/0004250	1/2/2003	Ajbani et al.	
		US- 2003/0032710	2/13/2003	Larson	
		US- 2004/0059057	3/25/2004	Swisher et al.	
		US- 2004/0127603	7/1/2004	Lean et al.	
		US- 2004/0143064	7/22/2004	Wang	
		US- 2004/0198917	10/7/2004	Castner	
		US- 2005/0101743	5/12/2005	Stacy et al.	
		US- 2005/0203248	9/15/2005	Zheng et al.	
MH		US- 6,706,813	3/16/2004	Chiba et al.	

## **FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner  
Signature

*[Signature]*

Date  
Considered

*4/30/02*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

Sheet 5 of 7

**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
JW		US- 6,060,549	5/9/2000	Li et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner  
SignatureDate  
Considered

9/20/07

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Substitute for form 1449/PTO

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet

6

of

7

## **Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

## **NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
RAH		Star Polymers by Immobilizing Functional Block Copolymers, by Koji Ishizu, Tokyo Institute of Technology, Meguro-ku, Tokyo, Japan, Star and Hyperbranched Polymers, 1999, ISBN 0-8247-1986-7	
		Formation of Worm-like Micelles from a Polystyrene-Polybutadiene-Polystyrene Block Copolymer in Ethyl Acetate, Canham et al., J.C.S. Faraday I, 1980, 76, 1857-1867	
		Anomalous Behaviour of Solutions of Styrene-Butadiene Block Copolymers in Some Solvents, Tuzar et al., Makromol. Chem. 178, 22743-2746 (1977)	
		Association of Block Copolymers in Selective Solvents, 1 Measurements on Hydrogenated Poly(styrene-isoprene) in Decane and in trans-Decalin, Mandema et al., Makromol. Chem. 180, 1521-1538 (1979)	
		Light-Scattering Studies of a Polystyrene-Poly(methyl methacrylate) Two-Block Copolymer in Mixed Solvents, Utiyama et al. Macromolecules Vol. 7, No. 4, July-August, 1974	
		Greenwood, N.N.; Earnshaw, A., Chemistry of the Elements, pp 1126-1127, Pergamon Press, New York 1984	
		Functionalized Core-Shell Polymers Prepared by Microemulsion Polymerization, E. Mendizabal et al., Dept. of Ingenieria Quimica, Univ. De Guadalajara, MX, 477/ANTE 97/1733-1737	
		Kink-Block and Gauche-Block Structures of Bimolecular Films, Gehard Lagaly, Chem. Int. Ed. Engl. Vol. 15 (1976) No. 10, pp 575-586	
		Linear Viscoelasticity of Disordered Polystyrene-Polyisoprene...Layered-Silicate Nanocomposites, J. Ren, Dept. of Chem Eng. Univ. of Houston, Macromol. 2000, pp 3739-3746	
RAH		Rheology of End-Tethered Polymer Layered Silicate Nanocomposites, R. Krishnamoorti et al., Macromol. 1997, 30, 4097-4102	

Examiner  
Signature

*[Signature]*

Date  
Considered

*4/30/07*

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Substitute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

Sheet 7 of 7

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where p	T <sup>2</sup>
<i>MP</i>		Rheology of Nanocomposites Based on Layered Silicates and Polyamide-12, B. Hoffman et al., Colloid Polm. Sci. 278:629-636 (2000)	
		Quaternary Ammonium Compounds, Encyclopedia of Chem Tech., 4th Ed. Vol. 20, 1996, Wiley & Sons, pp. 739-767	
		R.P. Quirk and S.C. Galvan, Macromolecules, 34, 1192-1197 (2001)	
		M. Moller, J.P. Spaz, A. Roescher, S. Mobmer, S.T. Selvan, H.A. Klok, Macromol. Symp. 117, 207-218 (1997)	
		T. Cosgrove, J.S. Phipps, R.M. Richardson, Macromolecules, 26, 4363-4367 (1993)	
		S. Mossmer, J.P. Spatz, M. Moller, T. Aberle, J. Schmidt, W. Burchard, Macromol. 33, 4791-4798 (2000)	
		Functionalized Core Shell Polymers Prepared by Microemulsion Polymerization, E. Mendizabal, J.E. Puga, A. Aguiar, S. Gonzalez-Villegas, 477/Antec '97/1733-1737	
		Ultrahydrophobic and Ultrayophobic Surfaces: Some Comments and Examples, Wei Chen et al., The ACS Journal of Surfaces and Colloids, May 11, 1999, Vol. 15, No. 10, pp 3395-3399, Polymer Science and Engineering Dept., Univ. of MA, Amherst, MA 01003	
		Super-Repellent Composite Fluoropolymer Surfaces, S.R. Coulson, I. Woodward, J.P.S. Badyal, The Journal of Physical Chemistry B, Vol. 104, No. 37, Sept. 21, 2000, pp. 8836-8840, Dept. of Chemistry, Science Laboratories, Durham University, Durham, DH1 3LE, England, U.K.	
<i>MP</i>		Transformation of a Simple Plastic into a Superhydrophobic Surface, H. Yildirim Erbil et al., Science Vol. 299, Feb. 28, 2003, pp. 1377-1380	

Examiner  
Signature

Date

Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

SEP 22 2005

PTO/SB/08A (07-05)

Approved for use through 07/31/2008. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 2

## Complete if Known

Application Number 10/791,177  
Filing Date March 2, 2004  
First Named Inventor Wang  
Art Unit 1714  
Examiner Name  
Attorney Docket Number P02083US1A

## U. S. PATENT DOCUMENTS

Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
MM		US- 4,764,572	8/16/1988	Bean, Jr.	
		US- 4,871,814	10/3/1989	Gunesin et al.	
		US- 4,920,160	4/24/1990	Chip et al.	
		US- 5,036,138	7/30/1991	Stamhuis et al.	
		US- 5,130,377	7/14/1992	Trepka et al.	
		US- 5,227,419	7/13/1993	Moczygemba et al.	
		US- 5,241,008	7/31/1993	Hall	
		US- 5,256,736	10/26/1993	Trepka et al.	
		US- 5,290,875	3/1/1994	Moczygemba et al.	
		US- 5,290,878	3/1/1994	Yamamoto et al.	
		US- 5,395,902	3/7/1995	Hall	
		US- 5,399,628	3/21/1995	Moczygemba et al.	
		US- 5,405,903	4/11/1995	Van Westrenen et al.	
		US- 5,436,298	7/25/1995	Moczygemba et al.	
		US- 5,438,103	8/1/1995	DePorter et al.	
		US- 5,462,994	10/31/1995	Lo et al.	
		US- 5,587,423	12/24/1996	Brandstetter et al.	
		US- 5,773,521	7/30/1998	Hoxmeier et al.	
MM		US- 5,955,537	9/21/1999	Steininger et al.	

## FOREIGN PATENT DOCUMENTS

Examiner Initials <sup>*</sup>	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>4</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				

Examiner Signature

*[Signature]*

Date Considered

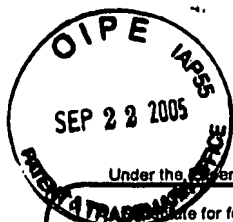
2/13/02

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.





PTO/SB/08A (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (Use as many sheets as necessary)	<b>Complete if Known</b>	
	Application Number	10/791,177
	Filing Date	March 2, 2004
	First Named Inventor	Wang
	Art Unit	1714
	Examiner Name	
Sheet 2 of 2	Attorney Docket Number	P02083US1A

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
JH		US- 5,986,010	11/1/1999		
		US- 6,180,693	1/30/2001		
		US- 6,359,075	3/19/2002		
		US- 6,420,486	7/16/2002		
		US- 6,489,378	12/3/2002		
		US- 6,689,469	2/10/2004		
		US- 2003/0124353	7/3/2003		
		US- 2003/0149185	8/7/2003		
		US- 2003/0198810	10/23/2003		
MH		US- 2003/0225190	12/4/2003		
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

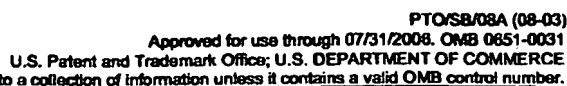
FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>2</sup> *Number <sup>4</sup> *Kind Code <sup>3</sup> (if known)				
2/27		EP 143500	6/5/1985	Damen		
1		EP 265142	4/27/1988	Berzinis et al.		
		JP 01279943	1/10/1989	Tsubokura et al.		
2/27		JP 05132605	5/28/1993	Hayashi et al.		

Examiner Signature		Date Considered	9/22/07
--------------------	--	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Wang
Art Unit	1714
Examiner Name	
Attorney Docket Number	P02083US1A

**(Use as many sheets as necessary)**

Sheet	1	of	1
-------	---	----	---

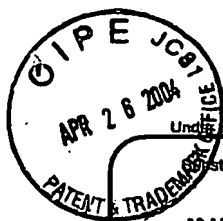
[illegible][illegible]

**Data  
Considered**

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.**



PTO/SB/08A (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Institute for form 1449/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 2

**Complete if Known**

Application Number	10/791,177
Filing Date	March 2, 2004
First Named Inventor	Xiaorong Wang
Art Unit	
Examiner Name	
Attorney Docket Number	P02083US1A

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
M		US- 4,773,521	09-27-1988	Chen	
		US- 4,829,135	05-09-1989	Gunesin et al.	
		US- 4,942,209	07-17-1990	Gunesin	
		US- 5,594,072	01-14-1997	Handlin Jr, et al.	
		US- 5,763,551	06-09-1998	Wunsch et al.	
		US- 5,847,054	12-08-1998	McKee et al.	
		US- 5,891,947	04-06-1999	Hall et al.	
		US- 5,905,116	05-18-1999	Wang et al.	
		US- 5,994,468	11-30-1999	Wang et al.	
		US- 6,191,217	02-20-2001	Wang et al.	
		US- 6,204,354	03-20-2001	Wang et al.	
		US- 6,255,372	07-03-2001	Lin et al.	
		US- 6,437,050	08-20-2002	Krom et al.	
		US- 2002/0045714 A1	04-18-2002	Tomalia et al.	
		US- 2003/0130401 A1	07-10-2003	Lin et al.	
		US-			
		US-			
		US-			
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
M		WO 02/081233 A1	10-17-2002	Bridgestone		
M		WO 03/085040 A2	10-16-2003	Bridgestone		

Examiner  
SignatureDate  
Considered

4/25/07

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.


This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)		Application Number	10/791,177
		Filing Date	March 2, 2004
		First Named Inventor	Xiaorong Wang
		Art Unit	
		Examiner Name	
Sheet 2 of 2	Attorney Docket Number	P02083US1A	

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
MM		An article entitled "Dendritic Macromolecules: Synthesis of Starburst Dendrimers" DONALD A. TOMALIA et al., Macromolecules, Vol. 19, No. 9, 1986, contribution from Functional Polymers/Processes and the Analytical Laboratory, Dow Chemical, Midland, MI 48640, Pgs. 2466-2468.	
		An article entitled "Preparation and Characterization of Heterophase Blends of Polycaprolactam and Hydrogenated Polydienes" DAVID F. LAWSON, ET AL. Pgs. 2381-2351, Central Research Labs., The Firestone Tire and Rubber Co., Akron, Ohio 44317, Journal of Applied Polymer Science, Vol. 39, 1990 John Wiley & Sons, Inc.	

Examiner Signature		Date Considered	4/30/02
--------------------	---	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.



FORM PTO-1449 (Modified)  
U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**  
(Use several sheets if necessary)

(37 CFR 1.98(b))

Atty Docket No.: P02083US1A

Serial No.: 10/791,177

Applicant(s): Wang et al.

Filed: March 2, 2004

Group: 1714

**U.S. PATENT DOCUMENTS**

Exam. Init. *		Publication/ Patent Number							Publication/ Issue Date	Patentee	Class	Subclass	Filing Date	
PA		4	3	2	6	0	0	8	04/20/1982	Rembaum				
		4	3	8	6	1	2	5	05/31/1983	Shiraki et al.				
		4	7	1	7	6	5	5	01/05/1988	Fluwylar				
		4	7	7	4	1	8	9	09/27/1988	Schwartz				
		4	8	6	1	1	3	1	08/29/1989	Bois et al.				
		5	0	6	6	7	2	9	11/19/1991	Srayer, Jr. et al.				
		5	0	7	3	4	9	8	12/17/1991	Schwartz et al.				
		5	1	9	4	3	0	0	03/16/1993	Cheung				
		5	5	1	4	7	3	4	04/07/1996	Maxfield et al.				
		5	5	2	1	3	0	9	05/28/1996	Antkowiak et al.				
		5	7	0	7	4	3	9	01/13/1998	Takekoshi et al.				
		5	9	1	0	5	3	0	06/08/1999	Wang et al.				
		6	1	9	7	8	4	9	03/06/2001	Zilg et al.				
		6	2	2	5	3	9	4	05/01/2001	Lan et al.				
		6	3	9	5	8	2	9	05/28/2002	Miyamoto et al.				
		6	4	4	1	0	9	0	08/27/2002	Demirors et al.				
		6	6	9	3	7	4	6	02/17/2004	Nakamura et al.				
		6	8	5	8	6	6	5	02/22/2005	Larson				
		6	8	6	1	4	6	2	03/01/2005	Parker et al.				
		6	9	5	6	0	8	4	10/18/2005	Wang et al.				
		7	0	7	1	2	4	6	07/04/2006	Xie et al.				
		7	1	1	2	3	6	9	09/26/2006	Wang et al.				
PA														

**FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION**

Exam. Init.		Document Number							Publication Date	Country or Patent Office	Class	Subclass	Translation	
													Yes	No
PA		0	3	2	2	9	0	5	07/05/1989	Europe				
		0	3	5	2	0	4	2	01/24/1990	Europe				
		0	4	7	2	3	4	4	02/26/1992	Europe				
		0	7	4	2	2	6	8	11/13/1996	Europe				
		3	4	3	4	9	8	3	04/03/1986	Germany				
		4	2	4	1	5	3	8	06/16/1994	Germany				
	0	6	2	4	8	0	1	7	09/06/1994	Japan				
	2003-	0	0	9	5	6	4	0	04/03/2003	Japan				
		9	7	0	4	0	2	9	02/06/1997	PCT				
PA		0	3	3	2	0	6	1	04/17/2003	PCT				

21 for  
4/30/07